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BIBLIOGRAPHICAL NOTICE.

An Introductory Lecture to the Course of Institutes of Medicine, &c., delivered in Jefferson Medical College, November 1, 1841. By Professor DUNGLISON.

The Introductions are multiplying so thickly upon our hands, that we are compelled to curtail the limits that we have heretofore allowed ourselves in noticing them. The veteran professor and literateur whose lecture is before us may be fairly disposed of in brief terms—an old familiar, whose merits are appreciated, and need not be enlarged upon. Professor Dunglison's lecture was, we believe, the first of the course at the Jefferson College; and, as the connecting link between the old and new organization of the school, upon him devolved the duty of welcoming his new associates, and adverting to the circumstances under which the former faculty was broken up. The Professor naturally and appropriately felicitates the institution upon the accession of strength which it has received under the new organization. Collectively, he next compliments his colleagues upon their eminent qualifications, and expatiates upon the "extensive facilities," "preparations, specimens, plates, drawings, and apparatus" which are in the hands of the institution. Professor Dunglison has too much good taste to indulge in immediate self-laudation; his brief allusion to the claims of his school on the consideration of the profession he justifies, on the plea of its peculiar position, and the example of sister institutions; particularly the elder sister, who "has been engaged in the business of medical instruction for three-quarters of a century." The plea is a fair one. The custom, however, we cannot help thinking more honoured in the breach than the observance. Let us not be understood to apply the force of this remark to the lecturer of whom we have been speaking. If at all, he has sinned most gently, and to his course of undeviating propriety, in and out of the chair, all bear testimony. But we do ad-

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dress our decided, if feeble, censure to the system of puffing, direct and indirect, so freely resorted to by some of the medical schools. It is unworthy the dignity of the profession, and if it accomplish temporary purposes, can never win lasting and elevated reputation.

The subject proper of Dr. Dunglison's lecture, a somewhat trite theme—the progress of medical science—he has handled with the taste and ability that belongs to the effusions of his practised pen. New and apposite in his illustrations, neat and flowing in style, he has worked up an exceedingly readable sketch of this pretty threadbare subject. While of course a topic like this, common place as it may prove to the general reader, is very appropriately selected for discussion as an introductory lecture, Dr. Dunglison has done more than common justice to the subject.

CLINICAL REPORTS.

PENNSYLVANIA HOSPITAL.

Surgical Wards, Service of Dr. E. Pease.

Discharges.—1. November 10, W. D. æt. forty-eight, admitted for a hydrocele on the right side of five years standing. Tumour large, round, and diaphanous; the body of the right testicle, which was smaller than the left, having diminished in size by degrees as the hydrocele increased, was found, after considerable search, on the anterior superior surface of the sack. A reducible inguinal hernia, partially masked by the tumour, and previously unknown to the patient, was discovered in the right groin.

The hydrocele was tapped Oct. 3, about three pints of a turbid whitish fluid being withdrawn. On the third day thereafter, the part was attacked with a rather severe acute inflammation which subsided in three days under the influence of rest in bed, low, diet, and a lead water lotion. No fluid perceptible at the end of thirty-eight days.

In this case no resort was had to the ordinary means of exciting inflammatory action in the sack, nothing being done except the mere introduction of a trochar and canula, and the evacuation of the fluid. He appears, therefore to have been cured by the palliative operation.

2. Nov. 13. —, a case of fungous tumour on the surface of the testicle not involving the proper structure of the organ, insensible, hard, rough, and irregular in surface; mottled in colour with dull red and brownish yellow patches, somewhat hemispherical in form, and, when first examined, about an inch in diameter, and rising half an inch above the integuments of the scrotum. The fungus had made its appearance nine days previous to his entrance. Treated for some time with emollient and fomenting cataplasms, without benefit, the tumour increased steadily during six weeks, until it became at least eighteen lines in diameter and fourteen in height. The part was then kept continually moist with lime water, and subjected to uniform compression—still without any marked improvement. Lastly, resort was had successively to astringents and escharotics; such as burnt alum,* sulphate of copper, and caustic potash. Under the action of these remedies, applied daily, every other day, or every two days, according to the amount of irritation produced,—compression being still sustained,—the tumour slowly disappeared. The caustic potash, which was the last article applied, appeared to act the most efficiently; since the slough was deeper, the absorption of the parts beyond it more rapid, and the pain of the application, although more severe, was more transient; and it created no irritation of the adjacent integuments; whereas, the sulphate of copper almost invariably inflamed the entire scrotum.

The pain excited by the dressings was felt only in the cord, neither the tumour nor the testicle appearing to suffer at any time during the course of the treatment. A small cavity was left in the spot occupied by the base of the tumour. This was stimulated to granulation by a strong solution of the sulphate of copper, and filled up in the course of ten days, when the man was discharged cured, the testicle being sound, although firmly adherent by its coats to the integuments in front. This case is deemed sufficiently rare and interesting to justify a more detailed report at a future period; and is therefore less fully narrated at the present time.

E. H.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA MEDICAL SOCIETY.

Session of Nov. 27.—Dr. Reynell Coates delivered a lecture on Animal Magnetism, philosophically considered.—The views contained in

* An error of the press crept into the Clinical Report of last week, by which the reporter is made to accredit a friend with the introduction of burnt alum into the practice of the Pennsylvania Hospital. The phrase, of course, was intended to credit him only with its introduction in the treatment of otitis at that institution.

this lecture are so peculiar, and in some respects novel, as to leave us no alternative between an extended abstract and its entire omission. As the lecturer himself believes his views likely to direct the minds of other investigators to practical results of value, we have chosen the former course, although it obliges us to extend the article beyond the present number. In accomplishing the task, we have availed ourselves of the original text and notes. Whatever may be thought of the opinions expressed, some valuable facts and interesting speculations will probably repay the reader for the expenditure of his time and our space.

"Gentlemen,—Many of the members of this learned body are aware that the singular nervous phenomena usually included under the now unmeaning title of animal magnetism, and absurdly dignified with the title of a science by the vulgar, and even by some of the more imaginative of those investigators who may be with justice included in the brotherhood of physical or physiological philosophers, have been made a subject of extensive experiment by at least two members of the society; and that the facts obtained by these members were duly canvassed in the debate on the lecture of Dr. Pierce, delivered, if I remember correctly, in the year 1837.

These facts were principally derived from the experience of the lecturer and that of the present Professor of the Practice of Medicine in Jefferson Medical College.

Both these gentlemen very properly avoided founding any theoretical, or, rather, hypothetical opinions upon these facts, because they were insufficient to form the foundation of any rational theory erected upon acknowledged physiological data. They were declared, on all hands, inexplicable, though true. They extended, on the part of Dr. Pierce, not only to the production of the cataleptic condition in which many or all of the organs of sensation refuse the performance of their proper functions, but, also, to the causation of a condition in which the subject of experiment became *apparently* capable of recognizing the taste and properties of articles in the mouth or about the person of the operator, while perfectly incapable of perceiving the taste or properties of similar articles when placed in or upon his or her own mouth or person. Further than this the experiments were not carried. On the part of Dr. Mitchell, (J. K.,) they proceeded little beyond the production of the cataleptic state, with the destruction of the natural sense of touch or feeling, and certain other senses, to such a degree that the lesser tests usual on these occasions were applied without awaken-

ing any impressions. The most pungent substances were introduced in the nostrils, and the fumes of the strongest liquid ammonia permitted to be inhaled by the same route, by one or both of the operators, sometimes until the skin was excoriated by the stimulus, without any sign of reluctance in the patient. It is well known that teeth were drawn by Dr. Mitchell, on one occasion, with a similar result.

"There are facts enough, therefore, already in possession of this society to prove, beyond the power of cavil, the actual production of catalepsy *apparently* by the employment of certain manipulations, and, perhaps, grimaces;—facts derived from those about whose good faith no question can arise—whose interest could not be, in any manner, promoted even by their avowal, and who both were made to suffer, we believe, by the justice which they did to science in simply stating the truth—the unvarnished truth—in public. In establishing this point, then, there is no necessity to refer to other experiments of the same nature, by the same or other gentlemen, which were pushed, in some instances, to an extent against which it would not be improper to enter a solemn protest. It is equally unnecessary, at present, to quote the phenomena displayed in certain recent public exhibitions in this city, of which I heartily disapprove, but have been compelled by the duty of the professional critic and journalist to witness. But in making a public avowal of this disapproval, justice requires that I should acknowledge the courtesy and frankness with which the unprofessional operator has facilitated my investigation of those phenomena.

"I will not detain the society with any account of the amputations of Jules Cloquet, or the horribly cruel and abominable tests of insensibility which have been tried in different parts of Europe upon patients in the cataleptic condition, artificially produced, ending, it is said, in one instance, in the death of the subject upon the chair of the operator. It would be an insult to your good sense to suppose you ignorant of a sufficient amount of this kind of evidence, independently of the personal experience of your fellow members; and it would be equally insulting to doubt your capacity to estimate the value of that evidence so far as the simple facts are concerned.

"The existence of the cataleptic condition, as occasionally produced *apparently* by certain manipulations or by certain exercises of individual will, is no longer a legitimate subject of debate among well informed physicians. I know of no such individual who has the hardihood to express a positive disbelief of it, though there are many who smilingly or fearfully decline all expression of opinion on the subject, well knowing that an affirmative avowal would produce a loss of influence with the vulgar or the ignorant, and limit, to a certain *appreciable* extent, the *immediate emoluments of practice*.

There are a few, it is true, who continue to doubt, without an absolute denial, on this one point, and for these I entertain a high respect, though firmly convinced that a few moments carefully spent in thought would remove their doubts.

"The condition to which allusion has been made, is termed, for the present, *cataleptic*, because, although the term catalepsy infers the existence of muscular spasm, and muscular spasm is only occasionally present in what is now usually termed the Mesmeric State, yet there is no ordinary disease which approaches so nearly to this condition in its rational signs, if we except certain stages in the progress of chronic hysteria. It is unnecessary to describe, before so enlightened an audience, the peculiar appearances presented by cases in which the various proceedings of what are mis-termed 'the animal magnetisers' have been successfully adopted, whether those proceedings have been productive of clonic and tonic spasm, or of an insensible condition accompanied by unusual relaxation of the muscles; for both these forms are witnessed in the artificial production of the disease, according to the temperament or idiosyncrasy of the subject. But—waiving, for the present only, the supposed transfer of the senses which the experiments of Dr. Pierce would lead us to infer, I do positively aver that there is nothing in this condition which is either unusual or peculiar. The only anomaly or originality consists in the peculiar manner in which the condition is supposed to be produced.

"No man, who is at all familiar with cases of chronic hysterical convulsions, as often exhibited in the wards of large hospitals, can have failed to notice patients in whom—either with or without the existence of spasm, or with these two states of the muscular system regularly alternating with each other,—all power of voluntary motion and consciousness have vanished for hours together. I have made it a special subject of inquiry, in such cases, to determine how far there existed an incapacity to receive the ordinary impressions of the senses. I have subjected patients in the Pennsylvania Hospital, prior to the year 1823, to most of the admissible tests of the animal magnetisers, (so styled,) such as plunging pins in the flesh to the depth of nearly an inch, making the patient inhale by the nose, for a short time, the fumes of aqua ammonia, subjecting the eye to the direct rays of a strong light or the sudden approach of foreign substances,—and in some individuals, at certain periods, these tests awakened no consciousness whatever. In two other instances, occurring in and near Meadville, Pennsylvania, in 1829, or 1830, precisely the same condition was produced by the exercises of a camp-meeting in the neighbourhood. One of these patients remained for more than two days absolutely insensible to ordinary impressions, except, as it seemed, through the ear. She ap-

peared to hear all that passed; for, in the midst of a general rigidity of muscles which rendered her body and extremities perfectly motionless, she talked incoherently and wildly of *more worlds than one or two*, and mingled with her discourse impertinent replies to remarks made by her friends and others in the room. Some of her observations appeared to refer to the acts and attitudes of visitors, and would have been supposed by any believer in clairvoyance to furnish evidence of the existence of that singular power, but I discovered nothing of this kind which might not have been accounted for upon the supposition of an intense acuteness of hearing. She was twice bled, cupped upon the temples, and again on the back of the neck, and mustard plasters were applied to the inner side of the leg. The latter were allowed to remain, contrary to my express caution, for several hours; and one of them gave rise to a very troublesome ulceration, requiring to be treated for several weeks. Yet at no time was there exhibited the slightest symptom of consciousness. Both the patients just mentioned were repeatedly pinched on the arms and neck, sometimes until the part was blue. They were pricked with pins, and hairs were drawn out by the roots without producing any sensation whatever. I have no doubt a limb might have been amputated without awakening sensation in either of them.

Waiving the alleged sympathy between the subject and the magnetiser, there is an absolute identity between this hysterical catalepsy or the catalepsy from pseudo-religious enthusiasm, and that resulting from mesmeric manipulation.

"Though there is nothing more wonderful in the degree of insensibility observed in such cases than in ordinary palsy, yet it is made a matter of wonder by the ignorant and the careless thinker, who sees nothing remarkable in palsy, merely because the latter disease is presented, almost daily, in the public streets; while the hysteric catalepsy is met with only occasionally, and in the wards of large hospitals; and the mesmeric catalepsy is produced under circumstances often open to the suspicion of deception.

"There are many persons who still continue to regard a *seeming sleep*, attended with a loss of feeling so complete that amputation will not even wake the patient, as something anomalous in nature. To disprove this, I will narrate two cases illustrating the disorder of the nervous system, resulting from an over-dose of alcohol."

Here the lecturer quoted the history of two cases occurring within three or four years of the present time, in the practice of the Pennsylvania Hospital.

In the first of these, the patient was wandering along the road in the low ground below

Philadelphia, in a state of intoxication. He paused by the side of a ditch designed to drain the meadows, to wash his feet, which were muddy with travel. He fell asleep with both feet and one hand in the water, and his seat was upon the wet margin of the ditch. The night became—unexpectedly—intensely cold, and the parts submerged were surrounded by solid ice. He was found in the morning, unable from debility to extricate himself. The ice was broken, and he was conveyed to the Hospital with sphacelus of the three extremities and the scrotum, and died there.

In the second case, a man deeply intoxicated wandered into a tavern, and being unable to leave it, was placed in a chair near a stove *red hot with the combustion of anthracite*. During the night, he slid down upon his seat until his knee came in contact with the heated iron, and was found in that attitude in the morning, by the family, *still asleep!* He was conveyed to the Hospital, and placed under the charge of the surgeons of that house. The patella was burned to charcoal. The burn extended to more than one-third of the diameter of the head of the tibia and the condyles of the femur, laying open the knee joint to its centre. The condition and habits of the patient precluded the operation of amputation; he lived many days, and died of exhaustion. Both these cases are fresh in the memory of many members of the Society.

The lecturer then recurred to the acknowledged fact that the mesmeric or "magnetic" manipulations really do disturb the equilibrium of the nervous system, and that, in character, the disturbance resembles hysteria, or catalepsy. He stated that the habit of attributing the effect to the action of the *imagination*, did not in any degree vitiate the fact. Imagination often determines life and death. Its action on the body is a legitimate subject of physiological research, as are all the passions. He alluded to the sudden death, from joy, of the old door-keeper of the first Congress, on the announcement of the victory of the allied armies over Lord Cornwallis. He pointed out the folly of those who, on finding that all the effects attributed by Perkins to his metallic tractors, could be produced by the same manipulations without the aid of tractors, condemned the obvious facts as humbug, together with the unfounded doctrines based upon those facts.

"The simple fact of the nervous disturbance following certain manipulations, is enough to prove either that the mind of one individual can control the mind of another, and thus react upon the nerves; or, that one nervous system can act directly upon another, at sensible distances.

"Now, it is of the utmost importance to the rational understanding of many really curious phenomena, that we should determine at once whether the condition called mesmeric is essentially the result of psychological or physical causes; because the idea of its purely mental origin is the source of all the wild, the absurd, the monstrous, the infidel, the sacrilegious opinions which have been grafted upon the miscalled theory of mesmerism, by the folly of those who are incapable of rigid physiological deduction. If we can prove that the operation is not effective through the influence of immaterial thought, we clear the subject at once of all the jargon of the pseudo-metaphysical animal magnetizers. It is only with those inconsequent reasoners who regard the mental powers as mere functions of the nervous system,—a sect with whom I have been waging war even to the knife, for the last three years,—that we shall hear the mind mentioned as other than very indirectly concerned in the history of mesmeric hysteria or catalepsy.

"Fortunately it is in my power, without reference to a thousand well-authenticated facts already on record,—the true bearing of which has not been perceived,—to prove conclusively, from personal observation, that the controlling or modification of the mind has no necessary connection with the production of the cataleptic condition."

Here the lecturer introduced the two observations narrated in his article published in our forty-fifth number for the present year, (page 716.) In both these cases, all the spasmodic phenomena were produced while the mind remained intact.*

"With this expose of local mesmeric action, all the silly dogmas of transfusion of the will and separation of the soul from the body, which disgrace the *doctrine* of certain dreamers, crumble into dust, and the subject is reduced within

its proper limits as a subject of plain physiological research into physical actions.

"Two things are fully proved, however, by these facts. One of them is of modern demonstration. The other never was denied in any age.

"1st. The mind of any individual, by its reaction on the nervous system, may modify its functions, and—to borrow a phrase from chemistry—using it allegorically—produce a change in its affinities.

"2d. The nervous system of one individual may exert a physical influence over that of another, in such a manner as most seriously to modify its functions, without the intervention of the anterior portion of the brain of the subject, and without there being any legitimate reason for supposing that any portion whatever of the brain participates in the impression.

"It follows from these predicates, that, so far as the individual subjected to the experiment is concerned, the apparent mental phenomena observed in Mesmeric catalepsy and hysteria, are not causative of the condition, but consecutive upon it. They may be present or absent, and may vary in degree and character—as the mere muscular affection is known to do—with all the peculiarities of temperament and idiosyncrasy. This, at once, explains why some individuals are more powerful than others, as operators, and why some subjects are more liable than others to the influence of Mesmerism.

"It is a popular, though altogether erroneous impression, that susceptibility to this species of morbid action is a proof of relative mental inferiority in the subject. Observation has not held out this position, nor could it be deduced legitimately from any rational attempt to explain the phenomena of Mesmerism."

The lecturer proceeded to assure the society that most of the subjects in whom he had witnessed this cataleptic or hysterical condition, were persons of superior mental endowments, in one instance very superior to those of the operator. The debility or morbid excitability was only discoverable on ordinary occasions, in the portions of the nervous system exterior to the brain. *The cause* being obviously a physical influence of one nervous system over another, he contended that *the effect* must inevitably be mutual between the subject and the operator—by the law of the equality of action and reaction,—and that the difference in apparent effect could only be the result of the accidental difference of susceptibility in the whole or some one portion of the nervous systems of the two parties in an experiment. He stated that the flexor muscles of his own forearm had been subjected to spasm on the first occasion of

* We have since learned that the literary gentleman who was the subject of the first of these observations, has become, by habit, more susceptible of the action of the causes of this nervous disturbance, so that he displays even the motions performed at the will of the operator, which have been rendered so familiar to the public by recent exhibitions; yet it has been found impossible to affect his mind in the least. He states that these motions are beyond his control, though recognized by his consciousness, and that they are performed without volition on his part.

his being placed in communication with a patient in the mesmeric catalepsy, and that on all succeeding occasions they had been affected with pain. This phenomenon he would have attributed to accident, had not the hand of his friend Dr. Caspar Morris been rendered somewhat paralytic for many minutes under the same circumstances. This mutual influence of one nervous system over another he now believed to be universal, though generally too slight to be recognised.

Dr. Coates spoke of the importance of studying this influence—if true—and believed that we are on the eve of the discovery of a new general law in Physiology, though but a few bare facts in relation to this subject have been, as yet, substantiated. He thought that many questions now considered as within the domain of Moral Philosophy and Psychology, might be illuminated by the prosecution of truly philosophical investigations into the history of this mutual nervous influence, to which it is at present an utter folly to attach the names of electricity, magnetism, galvanism, or gravitation, there being at present not the shadow of a reason for such connexion. Among the curious subjects which might possibly admit of a physical explanation by such means, he instanced the aptitude of minds in society to assume a common train of thought and feeling—grave or gay—as if by contagion; the singular approximation in appearance between dissimilar individuals after long continued matrimonial connexion; and the physico-moral peculiarities of races in man and animals, as well as some of those families, parties, and religious sects. The observations on this branch of the subject were curious and novel, but our space and the objects of our Journal permit us only to indicate them.

The length and variety of this lecture compels us to defer the very peculiar views of the speaker on the seemingly mysterious subject of *clairvoyance*. At present we will only remark that he considers it as a distinct sense existing in all animals, not identical with vision, and not developed by disease in man beyond its natural condition in some inferior animals: and, that it is found,—though only *typically*, and scarcely recognisable—in the healthy man.

(To be continued.)

DOMESTIC.

The following remarks are found under the editorial head in the New York Medical Gazette for Dec. 1st:

"We commence to-day the publication of Dr. John Augustine Smith's address at the opening of the present session of the College of Physicians and Surgeons. The friends of the Institution will be glad to hear that it is prospering; the number of students is greater than it has been for many years, and is still increasing. In another important respect, the Institution is more highly favoured than it has been, in the possession of the confidence and good will of the profession in New York. We may say of the whole profession, for we confidently believe that the College stands higher in the good opinion, has a larger measure of the respect, and a stronger hold on the good will of the profession, than it has had for years. In this the Institution, and those who control its destinies, reap the just reward of the high and honourable course which they have pursued under the peculiar circumstances in which they have been placed. Under many temptations, and with many excuses for doing otherwise, the College has never deviated from its course of quiet, unobtrusive usefulness; in such a course, the profession—the whole profession among whom it is situated, who, by their position, have the best opportunities, and by their characters are best qualified to judge of its merits—will sustain it. An Institution which has such support, may well dispense with all sinister arts; it needs no such aid, for when its friends are inquired of as to its character and pretensions, they may fearlessly reply, '*Ask the Profession in New York.*'"

The great city of New York is unquestionably rich in resources for medical teaching, and many districts of the state of which she is the capital, stand high in practical intelligence, perhaps *beyond any other section of the Union*; yet she has always been, and still is, peculiarly unfortunate in calling out those resources in such a manner as to render them available. We have watched her struggles, with regret at their failure, in years long gone by, and have been led to doubt whether there was not something in the very atmosphere of the great Commercial Emporium which unfitted it for the seat of medical instruction on an extended scale.

All cosmopolitan as our principles are, nothing would give us more pleasure than to have this doubt effectually dissipated. The first object in an attempted medical reform should be the establishment of unanimity and close

bonds of brotherhood in the profession, giving the medical character that weight in the community to which it is justly entitled. The second, should be the direction of the whole energy of the profession, moving in solid phalanx, to the defence of the principle of *well regulated medical representation* in the immediate government of medical institutions—a principle neglected with us, as in our sister city, in consequence of a fundamental error in our forefathers, who established our principal colleges upon a foreign model, ill adapted to the genius of our political institutions. Next follows—"though last, not least"—the necessity of taking ample time to accomplish great results. There has been generally too much parade, or too much vastness of scheme, in the medical movements of New York, to place her where she ought to be—among the principal centres of medical instruction. Had half the real wisdom been displayed in her professional legislation, that she has shown in the foundation of her noble primary schools and academies, *some years of well-regulated and staid exertion* might supply her with the material for a medical college, or colleges, of the highest rank in point of numbers. The "course of quiet, unobtrusive usefulness," pursued by the College of Physicians and Surgeons, is calculated to bring about such a result in time, as it would with any similar institution in the same happily located city, provided the profession and the legislature could be brought to act in concert, and the college itself should be disposed to advance and expand with the age, adopting the motto "*Festina lente!*" To hear that it is disposed to do so, and that it already begins to meet a "just reward," will give pleasure to every true friend of medicine throughout the Union.

R. C.

FOREIGN.

The following forthcoming volume cannot fail to add essentially to our stock of information from the rich graneries of London. It is a symptom of the advance of science in that Capitol that comparative anatomy and anatomical monographs of rare animals should be included in the catalogue of intended contents; for there is scarcely any department of medical science which may not be continually improved by that kind of generalization which

results from observing extensively the anatomical and physiological peculiarities of beings inferior to man. The conclusions drawn from the examinations of a few facts or a few genera only, are often productive of false theories, which, in their application, lead to most unfortunate results. A series of experiments is in progress in France, and has been for years, with a view to ascertain how far gelatine is capable of maintaining life; and it would appear that, when exclusively employed, weakness and death are rapidly induced! The question bears upon the supply of food to the whole French army and marine. We have avoided commenting upon these experiments as they are reported, because they have been chiefly confined to a few animals, mostly of the carnivorous class; and, being well aware that goats, or sometimes sheep, will eat tobacco with avidity—that some of the former relish white lead as a condiment—that a little ipecacuanha is said to kill a dog though he takes large doses of arsenic almost with impunity, we prefer awaiting the ultimate observations of the learned observers, before adopting any conclusions in relation to their hygienic and economical value. But the great importance of such researches, when sufficiently elaborated, is too obvious to need a comment.

Proposed Transactions by the Royal College of Surgeons in London.—The Council proposing to publish, in the course of the ensuing year, a volume, to be entitled "*Transactions of the Royal College of Surgeons in London,*" invite, from the members of the College, and other scientific persons, communications relating to the improvement of anatomical and surgical science.

The subjects proposed to be included in this publication are specified in the following extract from the ordinances of the College:—

"The Transactions shall consist of Original Communications on Surgical subjects: Collegial and Jacksonian Prize Dissertations, deemed of sufficient originality and merit: Original Memoirs on Human Anatomy; Original Memoirs on Comparative Anatomy; Anatomical Monographs of rare Animals, dissected in the Museum of the College: Explanations of, and Commentaries on, important Preparations in the Museum, with illustrative Plates; Statistical Reports from Hospitals. It is requested that papers intended for publication in this volume may be transmitted to the President, at the College, on or before the 1st of May, 1842.

EDMUND BELFOUR, *Secretary.*

July 28th, 1841.

Ed. Med. and Surg. Journ.

Physiological and Pathological remarks on the circulation in the brain.—We rarely venture to quote largely, without condensation, from the clinical lectures published in the London Journals. Many of these, being designed for students just entering upon their career, are scarcely worthy of record in pages designed for permanent usefulness, and others form portions of long series, and could only be presented, with justice, in the form of volumes. From both classes we obtain, occasionally, a few pertinent observations fitted for our periscope; but the following selection, which comprises about two-thirds of a lecture at St. George's Hospital, is so beautiful in model and important in matter, that it could not be condensed with justice either to the author or the reader.

“Affections of the head are always an interesting subject of consideration, and there are several at the present time under your notice, of which I will select three, as they offer some important practical suggestions; and some questions have been asked me, which show that several points connected with them are not well understood by all of you.

I. The first case is that of a little boy, William Lyons, ætat. 13, admitted March 24th, into Cholmondely Ward, with caries of the anterior part of the right parietal bone, with an opening through the skin, about the size of a sixpence, exposing the dura mater. Tongue clean; pulse quiet; no pain in the head; sleeps well at night; countenance pale. States that about three months ago he was carrying some chairs on his head, when he happened to fall down, and received a blow on the head from one of the chairs. He was not insensible after the accident, but only perceived a swelling on the head after the blow. This did not disappear, and was opened about a month afterwards, when some pus escaped, since which time it has continued to discharge, but he has not perceived any bone come away. This account is corroborated by the information we have received from the House Surgeon of the Westminster Hospital, where he was admitted a fortnight after the accident, and where the swelling was punctured, and found to contain only pure pus; but this gentleman says that bone was felt deeply situated, as if in the substance of the brain. During all the time he was there he suffered from no symptoms of consequence, and neither brain nor bone escaped through the opening. At the time of his admission our notes say the probe passed under the scalp to some distance beyond the opening, (about an inch and a quarter by an inch, in size;) and bone is felt of apparently the natural thickness, with an abrupt margin on each side. In the interval no bone

is felt, and only the dura mater (as it seems) presents itself, which is vascular, and bleeds from the touch. The pulsation of the brain is also seen in the whole space where the bone is deficient, as if there was at present no depressed bone in that situation below its natural level.

1. Such is the history which was obtained of this boy when he was admitted, and from it we should gather that the bone had been broken and depressed at the time of the accident, with laceration of the dura mater, followed by slow suppuration: if it were so, there is no account of any bone having ever come away, and therefore it must still remain in, since the surface exposed is at too great a depth to make us suppose that the depressed piece could have remained partially attached to the dura mater; and unless so attached, it, of course, cannot have been absorbed, as the process of absorption of bone requires some living vascular action. If the bone is lodged in the brain, it has, at any rate, excited not the least irritation since the boy has been in the hospital, and it appears that he has not suffered previously from any affection of the brain. I must confess, however, that I have some doubts upon this point, since the living surface, which is visible, is quite smooth and level, and looks just as the dura mater would have done if it had been uninjured. What can have become of the bone then, you will ask? Why, it is not at all impossible that the injury, and the pressure of blood effused under the pericranium, may have caused the absorption of a portion of bone with caries, which would go on enlarging the opening when once formed, especially in a scrofulous boy, since you know that scrofulous caries, taking place spontaneously, will occasionally produce this result. And the course of the local changes, since he has been in the hospital, is just like such an action, as there is some thickening of the soft parts around the opening, and another spot lower down has supplicated in the scalp, and the caries, which now exists, has been attended, as it often is, by the death of some of the diseased bone; so that in the early part of May I removed several small pieces of dead bone from around the opening, in that part of the bone which preserves its natural level; and some of this may have been felt when the abscess was opened. I will not dwell more, however, upon this part of the case, but will pass on to a second event in his history, which is interesting, though not connected with the brain.

2. The boy was observed, on his admission, to be very languid, and pale, and weak, and in a few days he had a good deal of cough, with some pain in the side, and we found that he scarcely breathed with the left side, which was quite dull, except just at the upper part; and in a day or two more we found that this side was actually larger than the other: in short,

he must have had pleurisy before he came in, with effusion of water or other liquid into the chest, sufficient almost entirely to compress the lung, so as to prevent the ingress of air. The little irritation he had, when our attention was first drawn to the chest, was easily subdued, particularly by blistering; and on the 8th of April our notes tell us that more air seemed to enter the lung, but at the same time that he had more cough, no doubt from the compressed lung beginning to expand a little, as some of the fluid was absorbed. He continued to have a little cough, but no constitutional irritation; and the fluid was gradually absorbed, but without much further expansion of the lung, till, our notes tell us on May 24th, that no air enters the chest below the fourth rib under the scapula, and in front it cannot be heard at all; but now, instead of the chest on this side being larger than the other, the thorax is perfectly flattened, and measures an inch and a half less from the spine to the centre of the sternum than on the other side. The heart at the same time beats over a large space, and is enlarged, as it would appear, from rheumatism. You have thus an excellent example of the absorption of fluid from the chest without operation, while the lung has only expanded to a small extent; and the effect of this alteration of size is generally to make the spine curve to the side, with depression of the shoulder.

3. I will, however, chiefly dwell in this case on the state of circulation in the brain, as you can see it going on through the aperture in the skull, as it does not seem to be well understood among you all; and there are many important inferences to be derived from a consideration of it, accounting, as this consideration will do, for the obscurity so often observed in injuries and diseases of the brain, in which exactly the same symptoms can often be traced to different, or even exactly opposite causes.

a. Look, in the first place, at the exposed surface of the brain in its habitual, I was going to say in its natural state, and you will see that there is an arterial pulse in it, so that there is an alternate rising and falling exactly corresponding with the systole of the heart: it rises as the arteries beat, and falls again till the next stroke of the heart; in other words, the brain actually contains more arterial blood at one time than at another.

b. Look again, when I have opened an abscess, or taken out a piece of bone, or when he has risen quickly off the bed, or has been subjected to any other kind of excitement, and you will perceive that the cavity below the aperture is lessened, and that there is also more pulsation than in the quiet condition; that the brain is kept permanently higher, rising and falling alternately, but quicker than before, and never falling so low; containing,

in short, a little more blood altogether, and having more entering it in a given time.

c. Then make him breathe deeply, or cough, and you will see that the brain rises still higher, so as even to expel the matter in a stream by the impulse of coughing; in fact, besides the beating of the pulse, there is a rising and falling of the surface in correspondence with respiration; that is, not only 80 or 90 times from the pulse, but 18 or 20 times, to a greater degree, still from breathing. During each expiration the chest is depressed, so that the venous blood is prevented from descending, and is accumulated in the veins and sinuses of the brain, so as to elevate the dura mater, which again falls in each inspiration by the weight of the atmosphere, the air entering the air-vessels, and the blood getting into the veins of the chest by the elevation of the ribs and the depression of the diaphragm, out of the distended veins of the brain.

But most of this is only because there is an opening in the skull, allowing the air to enter and make pressure on the surface of the brain, and you are not to suppose that the natural state of the circulation is exactly of the same kind. When the cranium is entire, the atmospheric pressure can only be felt at the various orifices at the base of the skull, and will there prevent any such vacuum between the dura mater and the level of the skull as we can now see; and as the substance of the brain is incompressible, there cannot possibly be the variation in the quantity of blood contained in the brain, which there is in our patient Lyons, with such a deficiency of the bone.

a. With regard to the arterial pulse in its natural state, we see more blood in the arteries during the systole of the heart, making the brain rise. So it is also when the bone is entire; but as the brain cannot rise, there must be at that time less in the veins of the brain.

b. So again in the excited condition of the circulation, we can see more arterial blood constantly in the brain. There is also, with an excited pulse, more arterial blood always in the head, if the cranium is entire; but then there must be still less in the veins than in the quiet state of the circulation, as the brain cannot rise upwards as we see it now do.

c. And, with regard to the elevation of the brain in our patient in expiration, there is also a similar impediment to the descent of the venous blood, when the bone has no aperture in it; but if the veins and sinuses contain more blood, there must be less in the arteries, which therefore are not at those times allowed to be so well filled by the action of the ventricle as in inspiration.

Thus, then, in a natural circulation there is a variation in the relative quantity only of the arterial and venous blood, not in the absolute quantity contained in the whole brain; but as this variation is taking place every second of

time, you may easily believe that it must be of great importance to the functions of the brain. But this is not all: there are other circumstances to be taken into account in the physiology and pathology of the brain.

d. If the brain contain a large relative quantity of *arterial* blood, this will be circulating chiefly in the interior of the nervous substance, separating the fibres and elementary particles, and stimulating their substance, it may be, to a healthy performance of its functions; or it may be, to an undue degree, producing inflammation or other mischief.

e. If, on the other hand, there is a disproportionate quantity of *venous* blood, this will be circulating chiefly on the surface of the organ, including the spaces between the masses of the encephalon; whence we may understand the effects of venous congestion in the production of sleepiness, stupor, paralysis, or other signs of weakening of the functions of the brain, or perhaps, like the influence of poison on the brain, causing delirium, convulsions, apoplexy, and so on, by means of this black blood.

f. But, further, we have seen a difference not in quantity only, or relative proportion of blood of different qualities, in different periods of the same kind of circulation, but in the rapidity also with which the same relative quantity of arterial blood passes through the brain in a given time. Much more arterial blood will actually circulate through the brain with a strong heart than with a feeble one, or with a quick pulse than with a slow one, the strength of the heart being the same:—or a feeble heart, beating very rapidly, may send more blood through the brain than a stronger one acting more slowly;—and a continued steady impulse on the substance of the brain must be very different in its effects from those of an irregular or intermittent state of circulation through its texture.

g. Then, finally, besides all these varieties of circulation through the whole brain, influencing all the encephalon alike, you must recollect that there is irregularity as to particular parts of these organs. Doubtless, for example, there is a greater state of vascularity in the forepart of the brain in this boy than there is naturally; and if this be so, when there is no aperture in the cranium, and the patient often refers us to one particular spot as the seat of pain, when there is an abscess or a tumor, there must necessarily, in accordance with what I have previously said, be less blood than natural in the remainder of the brain.

Now all these circumstances influence our practice in the treatment of cerebral affections of any kind. We take away blood, and give nitre or tartar emetic, and use other measures to lessen the quantity of arterial blood, or moderate the force with which it enters and circulates through the brain, when there is undue action of the heart, or what is called determination of blood to the head. We can relieve

the oppressed brain in many cases of plethora, or venous accumulation, by taking away a small quantity of blood, so as to enable more arterial blood to circulate; and thus very often we restore the functions of the brain and of the lungs at the same time, whether the cause of the oppression may have originated in the brain itself, or in the heart, or in the lungs, these several organs being so connected together.

In another case of passive venous congestion we overcome it by stimulating the heart, so as to make it propel more red blood upwards; or even by change of posture, so as to facilitate the passage of the venous blood downwards: the difference of lying down or sitting up being sufficient to determine a question of life or death. Then, again, we can give stimulants to a feeble heart so as to restore a healthy action to the brain, when insufficiently supplied with arterial blood, whether in absolute quantity, or in rapidity, or force of propulsion. You can any day see the influence of this latter circumstance in cases of delirium traumaticum, in which perhaps the pulse may be beating at the rate of 150 in a minute, with great apparent quantity of blood in the vessels of the head; but where your patient will yet die with furious delirium, unless you increase the force of the arterial impulse, by some of that gin by which his brain has been habitually stimulated, and by which he will directly be quieted of his violent exertions of mind and body, and fall perhaps into a gentle and refreshing sleep. Or, again, if we see a person dying from loss of blood, and insensible because the brain has so little stimulus of its necessary circulation, we may perhaps, when time is not afforded for food or drink to enter the blood, restore his consciousness and save his life, by transferring some from another person, which may directly be sent up to our patient's sensorium, to afford it the requisite and natural stimulus.

II. No wonder, then, that we should be offered some great similarity of symptoms from apparently opposite causes; because, in fact, these opposite causes may, in effect, produce the same state of circulation in the brain, in one of the several circumstances which we have been considering. No wonder, moreover, that we should often be at a loss in our diagnosis of these causes, and actually puzzled whether we should bleed or stimulate our patient—whether we should increase or lessen the vigour of his circulation. To illustrate this point, let me next draw your attention to another case now in the hospital; it is that of Jane Looker, æt. 32, admitted May 24th, into Wellington Ward, with these symptoms:—Complains of great pain in her head, equally diffused over the whole of it; pulse 90, regular, and rather weak; tongue clean and moist; bowels open; no anxiety of countenance, or frowning; not much appetite. She states that

about a month ago she received a blow on the upper part of the head, which stunned her for about ten minutes, ever since which time she has had great pain in the head. She was cupped a week since, which relieved her for a time, but, owing to working hard and drinking some porter, the headache returned, and is now as bad as ever. She is at present suckling a child eight months old, and has been living poorly of late, and was getting thin and out of health before the blow.

Here, then, is a case that might at first be regarded as an instance of inflammation after concussion, from the acuteness of the pain the woman complained of. You find that this view was taken of the case before her admission, and she was actually relieved by the cupping which was ordered. So it is, however, in many cases of weak and irregular circulation, and the temporary relief is succeeded by an aggravation of the pain. You find again that she attributes her return of pain to the stimulus of porter; but neither does this prove that the stimulus was injurious, since she was at the same time imprudent enough to return to hard work, which would naturally make a weak person suffer.

The whole state of the patient, however, left me little room to doubt that the pain was not likely to be inflammatory, and particularly the colour of the countenance, and the absence of anxiety and frowning, which inflammation almost always produces; the absence of sharpness and force of the pulse, although it was somewhat quick and jerking, and then the discovery of the fact of her having suckled up to the present time, and that in a condition of great privation. This long-continued suckling is, without any injury, a fertile source of derangement of the health generally, and of amaurosis, pain in the head, or mania in connexion with the brain.

I let her lie quiet, then, with some cold lotion on the forehead, till the day after her admission, giving her only some more nourishment. The pulse the next day, the 25th, was only 80, and soft; and the pain was a little better, but still much complained of. I therefore ordered her some ammonia draughts, and a small blister to the nape of the neck. On the 29th, our notes say the pain was rather better.

On June 1st I gave her some bark and aromatic confections, the countenance being more cheerful and a little more florid, but the pulse still weak, and gave her also a little porter.

On the 5th it seemed as if this was rather too much, the pain in the head being still complained of as much as before; and I gave her some Sp. Ammoniae Foetidus and Camphor Mixture instead of the bark, letting her diet remain as good as it had been; and now you may see her convalescent.

There are many such cases as this which will come under your notice after injuries of

the head, in which, if you are in any doubt, you should do little, but rather watch your patient; or, if your opinion is a little inclined to either side, you should proceed very cautiously, whether with the plan of depletion or of stimulation, lest you should find yourselves in error, or lest a change of plan should proceed a little too far; and there are many cases in which you will require even a combination of both principles of action. A man, for instance, fell from a ladder, and was bled after his admission for the symptoms of concussion, the house surgeon not being aware that he had also been bled just before his admission and very soon after the fall: he was for many days in a state of complete oppression of brain, with a slow and laboured pulse, and nearly total insensibility, and from want of nervous power there was the same torpor of bowels which is so much more common in diseases than in injuries of the brain. Now the state of this man was much more owing to large loss of blood than to the fall, and his tongue was thickly coated with a white cream that indicated a very disturbed state of circulation in the brain, but is not usual as a consequence of injury; but although this man required a good deal of light nourishment, and some diffusible stimulants to hasten the passage of the blood through the brain, he was also much benefitted by blisters to the neck, and by small doses of calomel and opium.

In some of these cases you will find even a cupping glass, or a few leeches to the forehead or temples, when there is intense pain, not at all incompatible with moderate stimulation of the general system; local congestion or inflammation being actually the consequence of feebleness of the circulation, and requiring the same local remedies, and the same effects on the capillaries of the part, which would be requisite in another case in which the general circulation was in an opposite condition; and for this purpose a blister, which I gave to our present patient, is very efficacious.—*London Med. Gaz.*

Every thing connected with the physiology of the hip-joint that wears the air of novelty, derives importance from the obscurity of the diagnosis of many affections of that deeply seated articulation, and we therefore make no apology for the extraction of the following paper entire, though it is somewhat prolix in style.

On the Uses of the Round Ligament of the Hip-Joint. By JAMES LUKE, Esq., Surgeon to the London Hospital.—Amongst the contributions to anatomy and physiology communicated at various times to the Anatomical and Physiological Society in Edinburgh, by Dr. Knox, is one on the round ligament of the thigh-bone in man, published in the July number of the

Edinburgh Medical and Surgical Journal, in which, after stating that ever since he taught anatomy, he has been much struck with the contradictory statements in respect to the uses of the round ligament, he proceeds to set forth the opinions of many writers of high authority upon the subject, as of Dr. Barclay, M. Boyer, M. Meckel, Sir A. Cooper, M. Cruveilhier, M. Gerdy, M. Blandin, and Mr. Mayo, and finally concludes with the expression of his own; in which he in some measure differs from the individuals just named. These opinions are, for the most part, to the following effect: 1st. That it restores the head of the femur to a right direction when it has partially quitted the cavity of the acetabulum. 2d. That it prevents the femur from leaving the cotyloid cavity upwards and outwards. 3d. That it opposes luxations upwards, outwards, and downwards. 4th. That it has a tendency to prevent dislocation in all directions, particularly downwards. 5th. That it limits rotation inwards of the femur. 6th. That "rotation, which is either outwards or inwards, can be carried only to the extent allowed by the round ligament of the femur. All attempts, therefore, to combine to any great extent the elements of rotation with other movements of which the joint is capable, receive a complete check from the presence of the round ligament, and more especially the motion of adduction, which cannot be performed at all when the limb is at the same time rotated outwards or inwards."

"Flexion inwards and outwards, combined with rotation, is also in an especial manner checked by the presence of the round ligament."

This latter is the opinion held by Dr. Knox himself, in support of which several experiments were made by him, confirmatory of his views. Although it was found in one of these, that, after the round ligament was divided, "the capsular ligament checked the motions of the femur just as effectually as when the round ligament was left intact," it is not intended to question here their accuracy, or the deductions which have been drawn from them.

It will be the business of the present communication to set forth other uses to which the round ligament is destined, of infinitely greater importance in the economy of the articulation than any which have been assigned to it by any of the authorities above mentioned. These uses are of such a character, that, in my estimation, they well deserve the appellation of primary, while those which have been just enumerated, should be considered as merely subordinate and secondary; and the whole to afford another illustration, in addition to the many which may be found in the body, of the adaptation of the simplest means to the attainment of most complex results.

On a general survey of the articulating system, it will not fail to strike the observer, that

each joint which enjoys motion to any extent, is furnished with the requisite facilities to that end; but if the attention be particularly directed to those joints upon which the weight of the superincumbent body falls when in the erect position, such as the joints of the foot, knee, and vertebral column; the fact of there being in these an additional provision, whereby the violent shocks received by one part are mitigated, or altogether prevented from being communicated to another, will not fail to be as readily observed;—and the springing arch of the foot, the interarticular cartilages of the knee, and the intervertebral substance, will be recognized as so many stops to the concussion of the body during the acts of walking, running, jumping, and other exercises.

Although the omission of the hip-joint from the catalogue of those provided with stops to concussion has been made, yet it will be found in the sequel, that the round ligament, by its arrangements, and by its attachments, is fully equal to prevent the forcible contact of the head of the femur with the upper part of the acetabulum during the motions of the joint; from which circumstance several results follow besides that of the stoppage of concussion, as will be subsequently enumerated. In the first place, it will be well to determine the truth of the observation, that the head of the femur and the acetabulum do not come into forcible contact while the round ligament is entire and in a normal condition. With this view, probably the relation of two experiments made upon the hip-joints of a man who died in the London Hospital from fracture of the skull, will be the most satisfactory course to be pursued. The first experiment was performed in the following manner on the left hip: After the removal of the muscles from the anterior and lateral parts of the capsular ligament, as well as from the venter and dorsum of the ilium, a cut was made with a saw, beginning from the anterior inferior spinous process, and extending through the brim of the pelvis: another cut was made also through the brim of the pelvis, but extending from the outer extremity of the ramus of the pubes. These two cuts were connected by a third, made nearly parallel with, but deeper in the pelvis than its brim. After which, the bone, insulated by the saw, was raised by the chisel. By this proceeding the whole upper part of the acetabulum was removed, while the anterior superior spinous process remained entire, and furnished a point from which measurements of the thigh could be made. As there was not any obstacle from bone remaining to the ascent of the femur into the abdomen, by reason of the removal of the upper part of the acetabulum, an opportunity was afforded of determining how far that ascent might be prevented by the round ligament, or by other causes. Attempts were therefore made to forcibly push up the whole limb towards the pelvis; but the attempts merely produced an

increase in the tension of the round ligament, without any shortening of the distance between the superior spinous process and the patella, as ascertained by most careful measurement and comparison with the opposite side. Having determined that there was not any shortening of the thigh, (the round ligament being entire,) a scalpel was introduced, and the ligament divided completely through, without any further division of the structures surrounding the joint. A considerable shortening of the thigh now was affected, by pushing the limb towards the pelvis; nor did there appear any obstacle to its ascent until the head came in contact with the ilium, at the uppermost point at which it had been sawn through.

Although this experiment was performed with every care that the measurement should be accurate, it is possible that a very trifling amount of shortening, such as would be sufficient to bring the head of the femur and upper surface of the acetabulum in forcible contact, might have been passed over unnoticed.

The second experiment was therefore made on the opposite hip. The capsular ligament being bared as in the former experiment, an incision was made perpendicularly through its centre on its anterior surface, after which, the outer and upper part of the acetabulum was removed by two saw cuts, one of which was continuous with the incision of the capsular ligament; the other traversed from the anterior inferior spinous process to the upper termination of the first. Thus about one-half of the upper part of the joint was exposed, and an opportunity afforded of examining, at the edge of the perpendicular saw cut, to what extent the acetabulum was pressed on by the head of the femur when the limb was pushed towards the pelvis by an assistant. When the limb was so treated, it was observed, that the opposing cartilaginous surfaces of the upper part of the acetabulum, and of the head of the femur, were brought barely in contact with each other, and that the thin point of a scalpel introduced between them was held by no means tightly. A different state of things was induced immediately that the round ligament was divided. The same surfaces were now brought forcibly into contact by pressure on the foot, and a scalpel, introduced in a similar manner to that just mentioned, was held with a degree of tightness very far greater than when previously introduced. The force of contact between the head of the femur and the acetabulum was regulated, therefore, by the round ligament, which, when present, prevented more than mere contact taking place.

The inferences to be drawn from these experiments necessarily induce the supposition, that other and more important uses than those assigned to it at the commencement of this paper belong to the round ligament: while the experiments themselves directly point out the nature and extent of those uses.

It must be obvious that two surfaces, prevented from forcible contact with each other, cannot transmit easily from one to the other any concussion that either might have received. It is equally obvious that, by the same preventive, friction and its effects are diminished, if not altogether removed from the surfaces, whereby the motions become less encumbered, and acquire a freedom which they would not otherwise possess. It also follows from the premises, that, in the act of standing, the round ligaments of the opposite side serve as cords of suspension for the trunk on the heads of the thigh bones. For assuming the pelvis, to which the round ligament is attached by one extremity, to be the fixed point, it has been shown that the thigh is prevented by it from ascending or from becoming shorter. But if the thigh itself be assumed to be the fixed point, to which the ligament is attached by its other extremity, the trunk, then becoming the moveable body, has a tendency to descend, which tendency is counteracted by the ligament, by means of which the trunk is suspended from the thigh or fixed point. The body, therefore, while erect, in reality swings upon the two round, or, as I would call them, suspensory ligaments of the hip-joints; but steadied in that position by the enormous muscles passing from the pelvis to the thigh, in a manner analogous to the ropes which support the mast of a ship in its position, but of course capable of variation in their respective lengths, according to the necessities of varying movements of the joint.

In certain cases an argument of the existence of a provision may sometimes be drawn from the necessity of the provision; but in this case probably an argument so raised would be scarcely admissible, because the economy of the articulation has sometimes no such provision as that referred to, and consequently its absence neutralizes altogether the argument drawn from its necessity. Yet, when the enormous muscles which surround the joint are taken into consideration—muscles, to which there are none in the body approaching in power—we cannot avoid the conclusion that their tendency must be to bring the opposing articular surfaces into forcible contact with each other; and that by causing a considerable amount of friction, some impediment to motion, and a still more important consequence, the uzure and wearing away of the cartilages, would be induced. The interposition of a provision which obviates these consequences, if not absolutely necessary, has a very near claim to be considered as necessary; and we are almost justified in its assumption as an argument. In Dr. Knox's memoir there is a reference made to cases in which the round ligament was wanting. These cases, in my opinion, afford corroborative evidence of the uses which are here assigned to it. He states, that in a joint where there was observed such defi-

ciency, "atrophy or uzure of the cartilages had commenced, and made considerable progress, as well on the head of the femur as on the corresponding acetabular surface." At another part of his memoir he says, "I have been informed by my friend Mr. Dick, of the Veterinary College, that it is not very unusual to find the round ligament of the femur absent in the horse." In these cases he found "atrophy of the cartilages of incrustation, and the conversion of a part, at least, of the abraded surfaces into the ivory structure." Although some doubt is expressed as to which of the conditions was primary and which secondary, Mr. Dick is of opinion that the division of the ligament had precedence, and was produced by accident. On the supposition of the correctness of which opinion, the cause of the other changes described admit of satisfactory explanation, viz., that they were induced by friction and uzure of the surfaces, from an absence of the countervailing provision; while the foregoing experiments sufficiently show, that the adequate countervailing provision against friction and uzure of surface exists in the hip so long as the round ligament remains entire.

Independently of the beauty of the arrangements of this ligament, considered as a mechanical contrivance, there occur to me considerations in reference to it, in connection with diseased actions attacking the joint, which merit some attention, and which give to it considerable importance in the practical investigations undertaken with the view to a correct diagnosis.

It is well known to the profession, that in his admirable work on Diseases of the Joints, Sir B. Brodie has recommended the surgeon, in the examination of the hip-joint, when affected with disease, to apply his hand to the heel of the patient, so as to press the head of the femur against the acetabulum; and certain inferences are to be drawn from the presence or absence of pain under the operation. Thus it is said that in hips affected with ulceration of their cartilages, violent pain is the consequence of such pressure: but, on the contrary, in the inflammation of the synovial membrane, no aggravation of pain is produced; and the diagnosis of one disease from another is made accordingly. The general accuracy of Sir B. Brodie's observations would be a sufficient guarantee for the correctness of this rule for forming a diagnosis, were it not confirmed by the observation of others and of my own. Yet, notwithstanding the correctness of the rule, from an examination of the attachments and uses of the round ligament, it appears to admit of some doubt, whether the rule is not fallacious in certain cases. Thus, supposing a disease to have its origin in the synovial apparatus surrounding that ligament, provided its tension were increased, we should expect a corresponding increase of pain. Pressure with the hand on the heel produces this increase of

tension; and if with it there be such corresponding increase of pain, we are taught, by the general application of the rule, to conclude that the cartilages are ulcerated, and that, only secondarily, probably the ligaments themselves may become diseased. Again, the absence of pain, when the heel is pressed, is supposed to denote absence of ulceration of the cartilages, and inferentially that the ligaments are the seat of disease: a conclusion which may be generally correct, but which may admit of exceptions, from the limitation of forcible contact between the opposing articular surfaces, induced by the uses to which the round ligament is destined (as stated above) in the economy of the articulation. According to this view, neither the presence nor absence of pain on pressure of the heel are, in every case, to be considered as unequivocal evidence of the presence or absence of ulceration of the cartilages, nor of the absence or presence of incipient disease of the synovial apparatus.—*Ibid.*

On Dislocations of the Sternal Extremity of the Clavicle backwards. By M. V. MOREL.—The author has had three opportunities of examining this rare accident at La Charité and La Pitié, and from a comparison of these cases with the only three others published, has drawn up an essay, of which the following is an abstract:

The causes of this dislocation are forces acting *indirectly* by pushing the shoulders violently forwards, or by suddenly pulling the arm forward while the trunk is fixed, or *directly* by sudden blows on the front of the clavicle. The latter cause is by far the most rare.

The symptoms at the moment of the accident are extreme pain at the base of the neck, with syncope, or a tendency to it, and generally more or less difficulty of breathing. The position of the limb is nearly the same as in fractures of the clavicle.

When the dislocated bone has passed backwards and downwards, its scapular extremity is always more than naturally prominent, and the clavicular end is lost sight of; but, if the patient be thin, and the parts not swollen, it can be felt pushed in behind the sternum. A depression more or less painful to the touch, indicates the vacancy at the sternal fossa, and the external portion of the sterno-mastoid muscle is obviously turned backwards and inwards; but none of these last signs can be discerned if the patient be fat, or if the injured parts be much swollen. The shoulder does not readily move; but if the whole strength of two men be applied to pull it backwards and outwards, the parts regain their natural relations, and the luxation is reduced; but the instant the extension is remitted, a rubbing sound, and the re-appearance of the deformity, announce the reproduction of the displacement.

The dislocation backwards and downwards is very often, by the efforts at reduction or

other forces, converted into one backwards and upwards. In this case, the end of the clavicle, instead of being fixed, is moveable, and, projecting inwards and upwards, forms above the sternum a small, hard, round tumour, which moves with every motion of the shoulder, and may be easily reduced and pushed out of the joint again.

The reduction of the dislocation backwards and upwards then is perfectly easy; that of the dislocation backwards and downwards is best effected by pulling the upper part of the arm horizontally backwards and outwards, while the elbow is held against the side of the chest. But the main difficulty is to keep the head of the bone, when reduced, in its place; and this may be best accomplished by M. Velpeau's bandage, which fixes the arm with its elbow on the front of the chest, and the hand on the opposite shoulder, and is itself retained in place by a second bandage similarly applied and thoroughly starched. It must be worn for forty or fifty days.—*Ann. de la Chirurg.*

Case of Tumour of the brain, with Hydrocephalus, and arrest of Development of the Uterine System. By DR. O'BRYEN.—Mary Morgan, aged 20, when about two years of age, had an acute attack of hydrocephalus, which appeared to continue in a chronic form during the rest of her life. At the age of seven, during another attack, she lost the sight of her left eye. When about fourteen years of age, the fits to which she was subject became more severe, and of longer duration; and when about eighteen, after feverish symptoms, and an epileptic fit, which lasted two hours, with slight delirium, the right side became paralysed. About four months before her death she frequently slept for a whole week, during which she suffered from convulsions every four or five hours. The power of speech, which had been gradually becoming more imperfect, was lost for some days before her death, as was also the power of swallowing; she also partially lost the use of the right eye. She died when about twenty years of age. The expression of her countenance was very childish. Menstruation never appeared; nor did any change take place in her manners or habits, as is usual at this period of female life. She showed no preference for the society of the male sex, but rather shunned them, preferring the toys of childhood, and children of five or six years old for her playmates.

The *dura mater* was thickened, white, and extremely resistant. The arachnoid was thickened, and of a milky whiteness. The convolutions of the brain were almost obliterated, and the substance softened. After removing a slice of about half an inch from the hemispheres, the lining membranes of the lateral ventricles were brought into view. They were white, tense, very resistant, and

distended with serous fluid. When the serous fluid, which was about eighteen ounces in quantity, had escaped, the brain lost its round appearance, and became flattened. When the ventricles were laid open, a tumour was found arising from the anterior part of the left optic thalamus covered by the lining membrane of the ventricles, which it had pushed before it. When the brain was removed, a second branch of the same tumour was found extending along the petrous portion of the temporal bone, penetrating the *tentorium cerebelli* above the internal auditory foramen, and adhering firmly to the arachnoid covering the left lobe of the cerebellum. The tumour was composed of calcareous matter; and measured from its base upwards of two inches, and from its base to the end of its lateral branch, two inches and a quarter, varying from half to one inch in breadth. Near the base of the tumour was a notch, under which the third, fourth, and sixth cerebral nerves, with the first branch of the fifth pair passed. The base of the brain presented a loss of substance corresponding to the size of the tumour, commencing to the right of the *tuber annulare*, which was sound, including a fourth of an inch of the *crus cerebri*, two convolutions of the middle lobe, to the depth of nearly one inch, on the outside leaving the fifth pair of nerves, and on the inside the *corpora albicantia* untouched. The tumour then penetrated the left optic thalamus, destroyed a part of the *corpus striatum*, the left optic nerve posterior to its commissure, and the first pair of nerves at their origin. The pineal gland could not be found. On inspecting the base of the cranium, the left anterior and posterior clinoid processes were found absorbed; and the tumour, with a narrow base, was found adherent to that portion of the membrane lining the *dura mater*, which covers the left carotid artery after it enters the cranium.

The cerebellum was the only part of the cerebral mass which appeared to be perfectly healthy, if the adhesion of its membranes to the tumour be excepted.

Nothing unusual was met with in the thoracic and abdominal viscera, with the exception of the left lobe of the liver, which was nearly as large as the right. The uterus existed only in miniature; it measured only one inch in length, one line and a half in thickness, and four lines in breadth. The ovaries were each about the size of an almond, and when divided presented one or two cavities. The Fallopian tubes were well formed, but their openings into the uterus were much larger than usual. The *os tincae* were about the size of a small pea, and very soft. The vagina was small, and had very few rugæ. No hair existed on the pubes, and the *mammæ* were not developed.

The above case appears to be worthy of notice from two circumstances connected with it; first, that the destruction of the left optic nerve

posterior to the commissure was followed by loss of vision of the left eye, whilst the humours retained their transparency; and *secondly*, that though the generative organs presented not the smallest developement, the cerebellum was not involved in the disease, but appeared perfectly healthy.—*Edinburgh Medical and Surgical Journal, from Dublin Journal of Med. Sciences, Jan. 1841.*

We had occasion, when speaking of the operation of tenotomy in a former number, to refer to a case of fracture of the olecranon processes,—the one consequent to the other—and to describe the extent of shortening observable in the extensor cubiti from gross error in the treatment, together with the limitation of the motions of the forearm resulting from the accident. In the following case we are presented with two very similar accidents affecting the tendons of both recti femores from muscular contraction alone. Both this observation and our own very clearly show the fallacy of supposing that the elongation of a contracted muscle can be effected by dividing and then mechanically extending its tendon without very seriously diminishing its functional power,—a fallacy most strangely advocated by many of the defenders of indiscriminate tenotomists and myotomists on club-foot and deformities of the spine.

R. C.

Rupture of the Rectus Femoris of both Thighs.
By WILLIAM ENGLAND, M. D.—Mr. Grantham's case of rupture of the rectus femoris being of considerable interest, I beg leave to record one which has occurred in my practice, and which I think you will find equally so, being a double rupture of the recti muscles of the thigh; and so far analogous to the one related by that gentleman, in proving the possibility of the occurrence of "rupture of the tendon of the rectus femoris muscle, unattended with fracture, dislocation, or laceration of the adjacent parts."

In the summer of 1838, a gentleman of robust appearance for his age, 73, consulted me for chronic dyspepsia, accompanied with severe cardialgia. Two years previously he had an attack of paralysis, which left the sensibility of the left arm much impaired. He had no power of locomotion except on crutches. There was complete inability of extending the lower extremities, owing to the rupture of the rectus femoris of each thigh; a groove being left above each patella as deep as the breadth of a finger.

In the following autumn, Mr. ——— had a severe attack of the erysipelas of the face, extending over the scalp. From this attack he recovered with great difficulty; and having visited him with Mr. Cullledge, of March, his medical attendant during a long series of years, I am enabled to give the report of that gentle-

man, communicated to me. About fourteen years ago, when in the act of running, Mr. ——— fell down (forwards,) and, on attempting to rise, found that he had injured the knee. Mr. Cullledge was immediately called in, and found the tendon of the rectus femoris of the right thigh completely ruptured. Under the hope that re-union might be effected, he was placed in as favourable a position as could be for that purpose; but he would not allow it to remain so for one hour, nor could he be prevailed upon to do so. About four years after the above accident, while walking in his stack-yard, Mr. ———'s left foot came suddenly in contact with a piece of wood, and he again fell forward, and with precisely the same consequences to the left limb. From the first accident he was compelled to use crutches; and although he possessed the power of locomotion to a limited degree, yet, upon the slightest flexure of either knee, he would at any time have fallen down without such support. No injury was done to the adjacent parts at either period.—*London Med. Gaz.*

INTERMENTS in the City and Liberties of Philadelphia, from the 27th of November to the 4th of December.

Diseases.	Adults.	Children.	Diseases.	Adults.	Children.
Asphyxia,	0	2	Brought forward,	36	36
Apoplexy	1	0	Inflammation of		
Cancer of breast,	1	0	the Peritonæum,	1	0
Croup,	0	1	Injury of the		
Congestion of			Spine,	1	1
brain,	1	1	Marasmus,	0	1
Colic,	0	1	Old age,	1	0
Consumption of			Palsy,	1	0
the lungs,	18	2	Pleurisy,	1	0
Convulsions,	0	5	Small pox,	0	6
Dropsy,	0	1	Still-born,	0	7
— Abdominal,	1	0			
— Head,	0	3	Total,	92	41
— Breast,	0	1			51
Disease of the					
kidneys,	1	0			
— Lungs,	0	1	Of the above, there		
Drowned,	1	0	were under 1 year,	35	
Dysentery,	1	1	From 1 to 2,	6	
Debility	0	3	2 to 5,	4	
Fever, Typhus,	1	2	5 to 10,	1	
— Typhoid,	2	0	10 to 15,	0	
— Scarlet,	0	2	15 to 20,	5	
Gangrene of			20 to 30,	14	
lungs,	1	0	30 to 40,	7	
Hæmorrhage,	0	1	40 to 50,	5	
Inflammation of			50 to 60,	7	
the Bronchi,	0	3	60 to 70,	4	
— Lungs,	3	5	70 to 80,	3	
— Liver,	3	1	80 to 90,	1	
— Larynx	0	1			
	—	—	Total,		92
Carried forward,	36	36			